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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

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| Applicant's or agent's file reference 115910S LV1/sko | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416) | |
| International application No. PCT/NO 03/00431 | International filing date (day/month/year) 19.12.2003 | Priority date (day/month/year) 20.12.2002 |
| International Patent Classification (IPC) or both national classification and IPC G01N1/20 | | |
| Applicant FJERDINGSTAD, S Ive, J. et al. | | |
| <p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p> | | |
| <p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p> | | |
| Date of submission of the demand 20.07.2004 | Date of completion of this report 19.04.2005 | |
| Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 | Authorized Officer Papantoniou, E Telephone No. +49 89 2399-2468  | |

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NO 03/00431

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-7 as originally filed

Claims, Numbers

1-15 as originally filed

Drawings, Sheets

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NO 03/00431

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1. and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|--------|
| Novelty (N) | Yes: Claims | 2 - 15 |
| | No: Claims | 1 |
| Inventive step (IS) | Yes: Claims | |
| | No: Claims | 1 - 15 |
| Industrial applicability (IA) | Yes: Claims | 1 - 15 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

Re Item V

**Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Reference is made to the following documents:
D1: US-A-4 905 510
D2: WO-A-99 00656
2. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 and 9 is not new in the sense of Article 33(2) PCT.
3. Claim 1
D1 discloses a method for in situ sampling and monitoring of a fluid flowing in a flow path (see the title of D1) whereby the fluid is to be directed to a chamber (10, Fig. D1). According to the method of D1:
 - a first valve (22, Fig. D1) provides a connection between an inlet (12, Fig. D1) to the chamber (10, Fig. D1) and the flow path (20, Fig. D1);
 - a second valve (16, Fig. D1) provides a connection between an outlet (14, Fig. D1) from the chamber (10, Fig. D1) and the flow path (e.g. to waste, see column 3, lines 23, 24, D1);wherein the method comprises the following steps:
 - a) opening the first valve (22, Fig. D1) and the second valve (16, Fig. D1) to let the fluid flow through the inlet to the chamber and from the chamber through the outlet into the continuation of the fluid path (see column 2, lines 41, 42, 45 - 48, D1), thereby allowing fluid to circulate through the chamber for a certain time;
 - b) trapping the fluid in the chamber by closing the second valve and thereafter closing the first valve (see column 2, lines 58 - 59, D1);
 - c) opening a valve (either valve 16, or an access valve 28, Fig. D1; see also column 3, lines 17 - 24, D1) for reducing pressure, to obtain a pressure in the chamber (10, Fig. D1) suitable for monitoring the fluid,
 - d) and leading the fluid trapped in the chamber into a monitor system through the access valve (32, Fig. D1) wherein the fluid is analysed (see column 3, lines 24 - 26, D1), and thereby providing data representing the fluid characteristics,
 - e) providing exit for the fluid analysed through a further fluid path (14, 16, Fig. D1) possibly to a low pressure section of the system (see column 3, lines 22 - 24, D1).

Thus the subject matter of claim 1 is not new (Article 33(2) PCT).

4. It is noted that both the present method of claim 1, as well as the method of D1 is explicitly used for monitoring (e.g. observing, recording, or detecting) of a fluid flowing in the flow path (oilfield production flowline 20, D1). D1 explicitly mentions that the method is used for examining, e.g. monitoring, "accurate samples from oilfield production flowlines", see column 2, lines 12 - 15, D1; see also column 3, lines 24 - 26, D1, which explicitly mentions that the sample is removed "for examination".

Concerning the problem mentioned by the representative, "to avoid that the fluid is subjected to shear forces", it is mentioned that such problem is explicitly known from D1; see e.g. column 3, lines 10, 11, D1.

5. Claim 9

D1 discloses an apparatus for in situ sampling and monitoring of a fluid flowing in a flow path (see the title of D1). The apparatus of D1 comprises an inlet (12, Fig. D1) and an outlet (14, Fig. D1) connected to a chamber (10, Fig. D1);

- a first valve (22, Fig. D1) provided for connecting the inlet (12, Fig. D1) to the flow path (20, Fig. D1)
- a second valve (16, Fig. D1) provided for connecting the outlet (14, Fig. D1), thereby allowing the fluid to fill the chamber, circulate the fluid through the chamber for a certain time, and capture the fluid in the chamber;
- providing an access valve (32, Fig. D1), for leading the fluid from the chamber into a monitor system where the fluid is to be analysed (see column 3, lines 24 - 26, D1), wherein reduction of the pressure in the chamber (10, Fig. D1) suitable for the monitor system is taken care of by the access valve (28, Fig. D1; see also column 3, lines 17 - 24, D1), or valve (16, Fig. D1).

The subject-matter of claim 9 therefore differs from the apparatus of D1 in that claim 9 defines that the second valve also provides for connection of the outlet "to the flow path", while as shown in the figure of D1, the second valve (16, Fig. D1) connects the outlet (14, Fig. D1) to a continuation of the fluid path to a waste dump (see column 3, lines 23, 24, D1). This provides for a different circulation of the fluid.

The problem to be solved by the present invention may therefore be regarded as providing an alternative fluid circulation, so as to create a loop wherein the fluid extracted from the main flow path for examination, can be returned to the fluid flow instead of being discarded.

Obviously, depending on the fluid, or volume used, the skilled person will either need to reuse the fluid and thus will recirculate it back to the main flow path, or will not need the fluid and will discard it. It is thus obvious to choose according to circumstance to either connect the outlet to a waste disposal (as in D1) or to connect the outlet of the chamber back to the main flow line. Such trivial choice, depends only on the circumstances of the fluid used and does not involve inventive step. Furthermore, such bypass construction is also shown in e.g. D2, see the second valve (13b, Fig. D2) which also provides for connection of the outlet (16, Fig. D2) "to the flow path" (11, Fig. D2). See also page 6, lines 25 - 27, D2, which indicates that for reducing waste, it is better to recirculate the fluid.

Thus the subject matter of claim 9 is not inventive (Article 33(3) PCT).

6. Dependent claims 2 - 8 and 10 - 15 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, because these features are either known from D1 or D2.